Highlights of Wisconsin NSR Rule Changes

NSR Retooling Advisory Group - April 13, 2004
Wisconsin Department of Natural Resources

The Mission….

- Get a rule to the Natural Resources Board for hearing authorization that addresses NSR reform changes made by the federal government with out comprising environmental standards and still meet EPA criteria for equivalency environmental quality by December.

NSR Retooling TAG

- Industrial/Utility Representatives
- Trade Organizations
- Consultants
- Regional Staff
- Central Office Staff
- No Environmental Groups (though invited)

Goal of TAG

- Voice interests in NSR Reform
- Voice challenges in federal rule (68 at least)
- Include Primary Federal Components
- Administrative Flexibility
- Certainty
- Consistency
- Clear
- Protective of Air Quality

Accomplishments of TAG

- Several meetings
- Voiced issues
- Provided options
- Better rule for Wisconsin

What's in the rule

- Applicability Test
- Clean Units
- Pollution Control Projects
- Actuals PAL

Clean Unit Test - 1

- In NR 405.18 and 405.19
- Optional Test under the rule (405.18(1))
- Available for units that have undergone major NSR (405.18) and those that are comparable to BACT/LAER (405.19)
- Emissions control can be add-on controls; pollution prevention; or work practices, but an investment in the control is required to qualify.(405.18(3)(b))

Clean Unit Test - 2

- Term of Clean Unit
  - Clean Unit Status available for up to 10 years after applying emissions controls, or from designation if meeting today's control requirements.(405.18(5))
  - To PAL term if designated as part of Clean Unit Opt Out provision while under PAL. (405.18(5)(c))
- Comparable to BACT/LAER technology may qualify for Clean Unit status, however must be BACT/LAER as of no earlier than Jan 1, 2001

Clean Unit Test - 3

- Redesignation from Attainment to Nonatt.
  - Designation as Clean Unit remains in effect at BACT, but significant increase must be offset.
  - Owner/Operator may have Clean Unit technology reevaluated as LAER (NR 405.18(9))
  - Following term of Clean Unit, must repermit under 406 to requalify as Clean Unit
- Nonattainment to Attainment - no change in status

Actuals PALs

- An alternative approach for determining major NSR applicability.
- A PAL is an annual (facility-wide) emission limitation (12-month rolling total, rolled monthly) under which the facility can make any changes without triggering NSR review for that pollutant.
  - Pollutant-specific
  - 10-year term

Actuals PALs - 2

- Establishing the PAL (405.21(6))
  - Determine baseline actual emissions for all existing emissions units using the same consecutive 24-month period for all units.
  - New and replacement units installed after baseline period added to baseline using methods under baseline actual emission methodology from applicability test for new units (405.21(6)(d))
  - Add the pollutant-specific significant emissions rate to the baseline actual emissions for the PAL pollutant.

Actuals PALs - 3

- Establishing the PAL
  - Subtract any emissions from emissions units that operated during the 24-month period and have since been permanently shut down.
  - Establish a step-down PAL if there are any requirements that have an effective date during the term of the PAL.
  - Adjust PAL level for units that had avoided major NSR previously to BACT levels at owner/operator election, else limits are maintained.
  - Clean Units are excluded from PAL restrictions and baseline calculation
  - In nonattainment area, PAL declines to rate equivalent to BACT on significant units, plus baseline actual of small units plus significant threshold at end of term

Actuals PALs - 4

- Reopening the PAL (405.21(8))
  - Department shall reopen the PAL permit to:
    - Correct typographical or calculation errors made in settling the PAL.
    - Reduce the PAL to create emissions reductions for offset purposes.
    - Revise the PAL to reflect an increase in the PAL.
    - Decrease the PAL to remove newly designated Clean Units from PAL
  - Department may reopen the PAL permit to:
    - Reduce the PAL to reflect newly applicable Federal requirements with compliance dates after the PAL effective date
    - Reduce the PAL consistent with any other requirement that the State may impose under its SIP
    - Reduce the PAL if it determines that a reduction is necessary to avoid causing or contributing to a NAAQS or PSD increment violation.

Actuals PAL - 5
Increasing a PAL (405.21(11))

- Allowed if the increased emissions cannot be accommodated under the PAL, even if all significant and major emissions units were to meet a BACT level of control.
- Emissions units causing the need for an increase (modified or new units) must go through major NSR.
- New PAL based on sum of:
  - Baseline actual emissions of small emissions units;
  - Baseline actual emissions of significant and major emissions units assuming a BACT level of control; and
  - Allowable emissions of new or modified emissions units.

Actuals PAL - 6
PAL Renewal (NR 405.21(10)

- If baseline actual emissions plus significant level are ≥ 80% of current PAL, then PAL may be renewed at current level.
- If baseline actual emissions plus significant level are ≤ 80% then:
  - PAL may be established at a level that is more representative of baseline actual emissions, or a level that is appropriate based on air quality needs or other considerations.
- The new PAL level cannot be higher than the existing PAL (unless PAL increase provisions are met) or the PTE of the source.

Actuals PAL - 7
PAL Expiration (NR 405.21(9))

- Within the timeframe specified for PAL renewals, the source shall submit a proposed allocation to each emissions unit covered by the PAL.
- The Department shall decide whether and how the PAL will be distributed and issue a revised permit incorporating allowable limits for each emissions unit.
- Any subsequent physical or operational change at the source will be subject to major NSR review.

Actuals PAL - 8
PAL Monitoring Requirements

- PAL permit must contain enforceable requirements to determine plantwide emissions (12-month rolling total, rolled monthly).
- A source may use any of the following approaches:
  - Mass balance calculations for activities using solvents or coatings
  - Continuous Emissions Monitoring Systems (CEMS)
  - Continuous Parameter Monitoring Systems (CPMS) or Predictive Emissions Monitoring Systems (PEMS).
  - Emissions Factors (validated under NR 400 series protocols).
- If no monitoring data exists for an emissions unit for a time period, the source owner must report the maximum potential emissions without considering enforceable or operating emissions limitations.

Actuals PAL - 9
Clean Unit Opt Out Provisions

- Units gaining Clean Unit status on date PAL established excluded from PAL
  - Must be designated clean on PAL date
- Emissions Unit in PAL can be removed from PAL by gaining Clean Unit status
- Allows Emission Unit to increase utilization to levels approved in CU determination
- Note: U.S. EPA has informally stated concern over this approach

Pollution Control Projects

- The PCP exclusion allows a project that reduces emissions of one or more air pollutants regulated under the Act to avoid major NSR review despite causing a significant emissions increase in a collateral pollutant. (405.20)
- The exclusion only applies to activities at existing emissions unit; addition of new emissions units does not qualify for the exclusion

PCPs - 2

- Required tests (NR 405.20(2))
  - Environmentally beneficial
  - Air quality analysis
- Content of notice (NR 405.20(3))
- Review/construction requirements after notice; 21 day DNR review (405.20(4))
- Process for unlisted projects (405.20(5)

Applicability Test
WI Baseline Actual Emissions - 1

- Baseline based upon annual average in a 24 month period occurring in the previous 10 years (5 for EUSGUs)
- Same baseline period for all pollutants, unless alternative approved by department
- Same pollutant baseline across multiple emissions units involved in project
- Adjusted to reflect current emission control requirements

WI Baseline Actual Emissions - 2

- Planned shut down and start-up included in baseline, unplanned events not included
- Baseline emissions reduced for any emissions that exceeded allowable levels
- Adequate data must exist to substantiate the baseline rate

WI Baseline Actual Emissions - 3

- "New" Units that are modified by a project
  - Meaning units that were constructed after the baseline period
  - If unit has not yet initially operated, baseline rate is zero
  - If operated less than two years from project commencement date, equal to PTE
  - If operated more than two years from project commencement date, then 12 months of actual emissions data is used

WI Applicability Test

- Used for plant modifications
- Not available for the construction of new emissions units or replacement units

Replacement Units - 1

- Replacement Units
  - Reconstructed emissions unit or replacement unit completely takes emissions unit's place
  - Identical in function or functionally equilavent
  - Does not change basic design parameters
  - Replaced unit is removed or shut down
  - Does not included projects exempt under RMRR

Replacement Units - 2

- Considered New Units, however:
- May restrict PTE using emission limits of unit being replaced
- If replaced unit was a clean unit, emission increase from replacement unit considered to be zero provided replacement unit will meets replaced unit's emission limitations
- If replaced unit was evaluated for BACT within the previous 10 years and no investment was required, emission increase from replacement unit considered to be zero provided replacement unit will meet replaced unit's emission limitations

Emissions Unit

- Defined within EPA rule broadly
- Definition used in evaluation of replacement unit and in applicability test
- If Owner/Operator proposes for department each emissions unit at the stationary source, DNR shall review and identify each emissions unit in operation permit

Future Emission Estimates

- Potential to Baseline Actual Test
  - Post project reporting and record keeping minimized
- Projected Actual to Baseline Actual/Actual Test
  - 5 year projection period if no increase in capacity, 10 year projection period if capacity is increased
  - Includes planned start-up and shut down emission rates, not unplanned events
- Calculation
  - Projected actual - baseline actual if growth adjustment factor *is not* used
  - Projected actual - actual emissions if growth adjustment factor *is* used

Notice, record keeping and reporting requirements

- Keep records of applicability test results
- Submit notice of project prior to beginning construction using growth adjustment in projected actual, and projection minus actual emission rate results in significant emissions increase prior to growth adjustment.
- Report to DNR if annual emissions result in significant emissions increase and are inconsistent with projection. If due to inaccurate growth factor, may "true up" growth projection.
- Source shall make records of applicability test results available to DNR or public upon request, however confidentially regulations apply. Source can submit information to DNR under confidentially regulations and provide public with redacted copy.

Applicability Test Examples

- Existing Unit
- Replacement Unit
- Hybrid

Applicability Test - Existing Unit

- Unit A
  - Project will not increase capacity of Unit A
  - VOC source => Significant threshold 40 TPY
  - Potential Emissions = 150 TPY
  - Baseline Actual Emission = 50 TPY
  - Actual Emissions = 40 TPY
  - Projected Actual (5 year) = 70 TPY w/o G.A.
  - Projected Actual (5 year) = 100 TPY w/ G.A.

Applicability Test - Existing Unit

- Calculation Options
  - Potential to Baseline Actual
    - 150 TPY - 50 TPY = 100 TPY significant
  - Future actual (no G.A.) - Baseline Actual
    - 70 TPY - 50 TPY = 20 TPY insignificant
  - Future actual (G.A.) - Actual Emissions
    - 100 - 30 (G.A.) - 40 = 30 TPY insignificant
    - Because FA - Act > 40 TPY before G.A. notice required

Applicability Test - Replacement

- Unit C is being replaced
- Unit C is a Clean Unit
  - Unit C's replacement unit considered to result in a "zero" TPY emission increase.
- Unit C had BACT, however no investment was required, thus Unit C not clean unit
  - Unit C's replacement unit considered to result in a "zero" TPY emission increase.

Applicability Test - Replacement

- Unit C is uncontrolled
  - Potential Emissions of replacement = 100 TPY
  - O/O elects Unit C limit on PTE of 80 TPY
  - Actual Emissions of Unit C = 50 TPY
  - No other contemporaneous increases/decreases
  - VOC source => Significant threshold = 40 TPY
  - Calculation
    - 80 TPY - 50 TPY = 30 TPY insignificant

Applicability Test - Hybrid

- Project effects 3 emissions units
  - Unit A is being modified
  - Unit B is being installed
  - Unit C is being replaced
  - Project will not increase capacity of unit A
  - No other contemporaneous projects

Applicability Test - Hybrid

- Unit A
  - Project will not increase capacity of Unit A
  - VOC source => Significant threshold 40 TPY
  - Potential Emissions = 150 TPY
  - Baseline Actual Emission = 50 TPY
  - Actual Emissions = 40 TPY
  - Projected Actual (5 year) = 70 TPY w/o G.A.
  - Projected Actual (5 year) = 100 TPY w/ G.A.

Applicability Test - Hybrid

- New Unit
  - VOC Source
  - PTE = 15 TPY

Applicability Test - Hybrid

- Replacement of Unit C
  - Unit C is uncontrolled but has BACT in last 10 years
  - Unit C will maintain BACT limits
  - Unit C has PTE limited to 39 TPY
  - Unit C has actual emissions of 25 TPY

Applicability Test - Hybrid

- Calculation
  - Unit A
    - Increase either 100, 20 or 30 TPY depending on test option elected. Assume FA - BA (20 tons, no G.A.)
  - Unit B
    - 15 TPY
  - Unit C
    - 0 TPY
  - Emission change = 20 + 15 + 0 = 35 TPY